

REMARKS

Applicant hereby traverses the rejection of record and requests reconsideration and withdrawal of such in view of the remarks contained herein. Claim 18 has been amended. Claims 18-29 are pending in this application.

Rejection Under 35 U.S.C. § 103(a) (Eaton, Harns, & Morley)

Claims 18 and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,939,694 to Eaton et al (hereinafter “Eaton”) in view of U.S. Patent No. 4,460,997 to Harns (hereinafter “Harns”) in further view of U.S. Patent No. 4,506,362 to Morley (hereinafter “Morley”).

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art cited must teach or suggest all the claim limitations. *See* M.P.E.P. § 2143. Without conceding that the second or third criteria are satisfied, the Applicant respectfully asserts that the Examiner’s rejection fails to satisfy at least the first criteria.

Lack of Motivation

In the Current Action, the Examiner attempts to satisfy the limitation “physically re-mapping said memory segment in response to said declared failure condition” by introducing Morley. *See* Current Action, pg. 7. In doing so, the Examiner opines that it would have been obvious to combine Easton (and Harns) with Morley “because one of ordinary skill in the art would have recognized that using the language physically re-mapping would have provided the operation of mapping defective memory cells at a physical location on a semiconductor chip at taught in Figure 3 of Eaton to non defective replacement memory cells at a non-defective physical location on a semiconductor chip at taught in Figure 3 of Eaton.” *Id.*

Applicant respectfully points out that the Examiner’s statement of motivation is insufficient according to M.P.E.P. § 2143. It is well settled that the fact that references can

be combined or modified is not sufficient to establish a *prima facie* case of obviousness. *See* M.P.E.P. § 2143.01. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 913 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990). The language of the recited motivation, namely “one of ordinary skill in the art would have recognized that using the language physically re-mapping would have provided the operation of mapping defective memory cells at a physical location to non defective replacement memory cells at a non-defective physical location,” is circular in nature. The Examiner merely asserts that it is obvious to make the modification because it is obvious to achieve the result. Such language is merely a statement that the reference can be modified, and does not state any desirability for making the modification. As such, the motivation provided by the Examiner is improper, as the motivation must establish the desirability for making the modification. In view of the above, the Examiner has not provided a sufficient 35 U.S.C. 103 rejection according to M.P.E.P. § 2143.01.

In the Current Action, the Examiner reiterates his position that Eaton teaches the re-mapping of defective memory locations. Applicant does not disagree with the notion that Eaton teaches re-mapping, nor does Applicant disagree that “re-mapping” necessarily involves the substitution of one physical memory location for another physical memory location. However, Applicant takes issue with the Examiner’s apparent misunderstanding of the mechanisms underlying Eaton and Applicant’s invention. Applicant respectfully points out that “re-mapping,” i.e., physical substitution of one memory location for another may be performed by physical mechanisms or by logical mechanism. Applicant’s invention includes “physically re-mapping,” which has very different implications than the Examiner’s mischaracterization of “re-mapping defective physical memory locations.” Physical re-mapping involves physically changing the address lines extending between memory units. However, when a defective memory location is logically re-mapped the defective physical memory location still has the same physical address lines which can still be used to physically address the defective memory location. The same cannot be said for the “physical re-mapping” of the present invention. The Examiner has indicated that Eaton does not disclose “logical” re-mapping. However, Applicant respectfully points out that Eaton re-

maps defective memory units by translating memory addresses in an address table (e.g., a look-up table). Thus, Eaton's re-mapping is logical as opposed to physical.

Further, the Examiner's proposed combination is improper according to M.P.E.P. 2143.01(VI). If the proposed modification or combination of the prior art would change the principle of operation of the invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). In the case at hand, the Examiner introduces Morley in an attempt to modify Eaton so that its memory element address lines are physically re-mapped to a different address space. See Current Action, pg. 6. However, such a modification would change Eaton's principle operation.

As Applicant has pointed out, the entire disclosure of Eaton is drawn to "logically" re-mapping physical memory locations. Eaton, at col. 2 lines 51-54, Eaton discloses "the system controller replaces defective memory cells by storing the addresses of the replacement memory cells and the defective memory cells into the substitute address table." Eaton also discloses replacing larger groups of defective memory cells by "storing the addresses of replacement memory cells in the substitute address table." See Eaton, at col. 2 line 66- col. 3 line 3. Eaton, in referring to figure 3 (which the Examiner has repeatedly relied upon in support of his rejections), describes a "substitute address table 3-11 that is rewriteable and that will be used to contain the address of replacement memory cells 3-5c." See Eaton at col. 4, lines 44-47 (emphasis added). Finally, Eaton discloses that the address table may be a look up table or a content-addressable memory, where a computer determines if a memory has been replaced by comparing addresses in the address table. See Eaton at col. 5 lines 20-30.

The referenced citations make clear that Eaton's principle operation requires re-mapping physical memory locations by changing defective memory locations in an address table, which may be a look-up table or content-addressable memory. Clearly, such "logical" re-mapping is a completely different operation than replacing the physical address lines of a memory location. As such, modifying Eaton so that it replaces the physical lines of a memory location, as the Examiner's proposes, would change the principle operation of Eaton. Therefore, the Examiner's proposed combination is inappropriate

Rejection Under 35 U.S.C. § 103(a) (Eaton, Harns, Morley & Owen)

Claim 20 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Eaton in view of Harns in further view of Morley in further view of U.S. Patent No. 6,065,134 to Owen et al (hereinafter “Owen”).

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art cited must teach or suggest all the claim limitations. *See M.P.E.P. § 2143.* Without conceding that the second or third criteria are satisfied, the Applicant respectfully asserts that the Examiner’s rejection fails to satisfy the first criteria.

Lack of Motivation

As shown above with respect to the Examiner’s rejection of claim 18 and 19, no motivation has been provided for combining Eaton and Morley. As such, the Examiner’s 35 U.S.C. 103 rejection is insufficient. Therefore, Applicant respectfully requests the rejection or record be withdrawn.

Rejection Under 35 U.S.C. § 103(a) (Eaton & Green)

Claims 21-25, 27, and 28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Eaton in view of Harns in further view of U.S. Patent No. 4,965,799 to Green et al (hereinafter “Green”).

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art cited must teach or suggest all the claim limitations. *See M.P.E.P. § 2143.* Without conceding that the first or second criteria are satisfied, the Applicant respectfully asserts that the Examiner’s rejection fails to satisfy the third criteria.

Failure to Teach or Suggest Every Claim Limitation

Claim 21 recites “successively scanning each of a plurality of subsets of said memory segment, wherein each said subset comprises at least two linear arrays of elements.” The Examiner points to Green, at claim 16 steps (l)-(m), to satisfy this limitation. In doing so, the Examiner opines “a column is a linear array and a row is second linear array which are subsets of a memory array.” As such, the Examiner equates a memory row and a memory column to a “subset.” However, claim 21 recites that each subset comprises at least two linear arrays of elements. Cleary, neither a row nor a column, each of which the Examiner equates to a subset, do not themselves comprise at least two linear arrays of elements. Thus, according to the Examiner’s own rationale, Green does not teach or suggest this limitation. In any event, Green, at claim 16 steps (l)-(m), merely recites incrementing row addresses to address memory cell units until all row address have been provided. Moreover, Eaton is not relied upon to teach or suggest this missing limitation. Therefore, Applicant requests withdrawal of the 35 U.S.C. 103 rejection of record.

Claims 22-25, 27, and 28 depend from claim 21 and inherit every limitation therefrom. As shown, the Examiner’s proposed combination of Eaton and Green fails to teach or suggest every limitation of claim 21. As such, claims 22-25, 27, and 28 set forth limitations not taught or suggested by the Examiner’s cited references. therefore, claims 22-25, 27, and 28 are patentable at least for the reasons set forth above with respect to claim 21.

Rejection Under 35 U.S.C. § 103(a) (Eaton, Green, & Owen)

Claims 26 and 29 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Eaton in view of Green in further view of Owen.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art cited must teach or suggest all the claim limitations. *See M.P.E.P.*

§ 2143. Without conceding that the first or second criteria are satisfied, the Applicant respectfully asserts that the Examiner's rejection fails to satisfy the third criteria.

Failure to Teach or Suggest Every Claim Limitation

Claim 26 and 29 depend from claim 21 and inherit every limitation therefrom. As shown, the Examiner's proposed combination of Eaton and Green fails to teach or suggest "successively scanning each of a plurality of subsets of said memory segment, wherein each said subset comprises at least two linear arrays of elements" as recited in claim 21. Moreover, Owen is not relied upon to teach or suggest this missing limitation. As such, claims 26 and 29 set forth limitations not taught or suggested by the Examiner's cited references. Therefore, claims 22-25, 27, and 28 are patentable at least for the reasons set forth above with respect to claim 21.

Conclusion

In view of the above, Applicant believes the pending application is in condition for allowance. Applicant believes no fee is due with this response. However, if a fee is due, please charge Deposit Account No. 08-2025, under Order No. 10004546-1 from which the undersigned is authorized to draw.

Dated: May 24, 2006

I hereby certify that this correspondence is being Deposited with the U.S. Postal Service as Express Mail, Airbill No. EV 568256498US, in an envelope Addressed to: MS Amendment, Commissioner for Patents, P. O. Box 1450, Alexandra, VA 22313-1450, On the date shown below.

Dated: May 24, 2006

Signature: Jan Cleveland
Jan Cleveland

Respectfully submitted,

By Michael J. Fogarty, III
Michael J. Fogarty, III
Registration No.: 42,541
Attorney/Agent for Applicant

(214) 855-8172